REMARKS

Review and reconsideration of the application in view of Applicants' remarks are respectfully requested. No claims are amended herein.

Consideration of the remarks after final is proper because 1) no amendment to the claims is made; 2) the remarks repeat issues not addressed or acknowledged by the Examiner in the Office Action of March 29, 2004; 3) the remarks place the application in better condition for appeal, should an appeal be necessary; and 4) the remarks place the application in condition for allowance. Entry and consideration of the remarks is thus respectfully solicited.

Applicants note not all arguments set forth in the Amendment were addressed in the Office Action mailed March 29, 2004. Applicants further note the Office Action did not acknowledge or address claims 7 and 8, added by the Amendment filed January 6, 2004. Because the Examiner failed to address all arguments and claims presented by Applicants, the finality of the rejection mailed March 29, 2004, is improper and should be revoked. Applicants respectfully request 1) the finality of the Office Action be revoked, 2) acknowledgement and consideration of all pending claims 1-8, and 3) acknowledgement and consideration of all remarks presented herein, some of which were not previously addressed by the Examiner.

Claims 1, 5, and 6 have been rejected under 35 USC § 102(b) over West et al., U.S. Pat. 5,453,863. For at least the following reasons, Applicants traverse the rejection.

Claims 1, 5, and 6 all recite that the cholesteric liquid crystal display includes a layer including a polymeric host material and cholesteric liquid crystals in the host material. Further, the claims recite that a voltage pulse applied to electrodes causes a direct change of the cholesteric liquid crystals from any initial state to a particular state within a selected gray scale.

As explained by Applicants in the response of January 6, 2004, West, et al. explicitly teaches that the liquid crystal display material does not contain any polymer. *See*, for example, col. 2, lines 10-13; col. 6, lines 47-48; col. 7, lines 36-39; and the claims. The Office Action suggests Fig. 1 of West et al. shows cholesteric liquid crystal in a host material. A reading of West et al. at col. 6, line 36, through col. 7, line 39, shows that this is not the case. Fig. 1 depicts glass plates 10 and 11, spacers 12, transparent electrodes 13, optional

coating 14, liquid crystal 16, and voltage source 17. The optional coatings 14 can include polymeric layers as described at col. 6, line 66, through col. 7, line 10. However, as described and depicted in West et al., such layers do not include the liquid crystal material. The liquid crystal material, as shown in Fig. 1 and described in West et al., is a separate layer in the display, as discussed at col. 7, lines 11-14, which states:

> "The liquid crystal material comprises a nematic liquid crystal having positive dielectric anisotropy and a chiral material, e.g., cholesteric liquid crystal, but **does not contain any polymer**." (Emphasis added)

West, et al. therefore fails to teach, disclose or suggest a feature of the claimed invention, that a layer of the display comprises a polymeric host material and cholesteric liquid crystals in the host material. West et al. further teaches away from use of a polymeric host material at col. 1, lines 44-55.

West et al. also does not teach a cholesteric liquid crystal display wherein a voltage causes a direct change of the cholesteric liquid crystal from any initial state to a particular state within a selected gray scale, as set forth in Applicants' claims. As shown in Fig. 5 of West et al., and described in col. 12, lines 18-54, two distinct curves are created in response to applied voltage depending on the initial state of the liquid crystal. As shown in Fig. 5 of West et al., there is no point wherein applying the same voltage to the liquid crystal display of West et al. in an initial reflecting state and an initial focal conic state can achieve the same result. The curves for applying voltages to an initial reflecting state (curve A) and an initial focal conic state (curve B) of West et al. do not even overlap at any point. West et al. admits at col. 12, lines 49-54, that gray scale is only practically achieved when the liquid crystal is first driven to a planar state as the initial state.

In contrast, the claimed invention, as shown in the specification at Fig. 5 and described at page 11, lines 3-18, achieves a single gray scale regardless of the initial state of the liquid crystal when a voltage between V3 and V4 is applied. As can be seen in Fig. 5 of the application, between V3 and V4, the claimed display of the invention achieves a single gray scale represented by line 6, regardless of whether the initial state of the liquid crystal was planar (reflecting - curve a) or focal conic (curve b).

As discussed above, West, et al. does not teach, disclose or suggest each and every element as set forth in Applicants' claims. In particular, West et al. does not teach, disclose or suggest at least a layer including a polymeric host material and cholesteric liquid crystals in the host material, and in fact teaches away from such a composition. West et al. further does not teach, disclose, or suggest that a voltage pulse applied to electrodes causes a direct change of the cholesteric liquid crystals from any initial state to a particular state within a selected gray scale, and admits gray scale can only be achieved from the planar state, contrary to Applicants' claimed invention. For at least the above reasons, reconsideration and withdrawal of the rejection are in order, and are respectfully requested.

Claims 1-6 have been rejected under 35 USC § 102(e) over Stephenson et al., U.S. Pat. US 6,556,262 B1, or Stephenson, U.S. Patent Application Publication US 2002/0093605 A1. For at least the following reasons, Applicants traverse the rejections.

US 6,556,262 B1 discloses that gray scale is achieved in the described display by progressive evolution from the planar to the focal conic state by varying low voltage time (*see*, col. 4, lines 38-47). It is not taught, disclosed or suggested that gray scale can be achieved from the focal conic state. US 6,556,262 B1 does not teach, disclose or suggest all of the features of the claimed invention, in particular, that a voltage pulse applied to electrodes of a display causes a direct change of the cholesteric liquid crystals from <u>any</u> initial state to a particular state within a selected gray scale.

US 2002/0093605 A1 discloses colored domains of liquid crystal in a polymeric host material. Col. 2, paragraph 0037 discusses two stable states of the liquid crystal, planar and focal conic, which are achieved by application of a high voltage field, or a lower voltage field, respectively, followed immediately by zero voltage. This creates bright and dark images, respectively.

US 2002/0093605 A1 does not disclose or suggest the use of gray scale. For example, paragraphs 0044 and 0045, and Figs. 6-8, demonstrate the use of planar and focal conic states to form an image. It is not disclosed or suggested that gray scale images can be made. No means for applying a voltage pulse to achieve a gray scale as set forth in Applicants claims is disclosed or suggested by US 2002/0093605 A1.

For at least the above reasons, the rejections over claims 1-6 in view of US 6,556,262 B1, or US 2002/0093605 A1, should be reconsidered and withdrawn.

For at least the reasons set forth above, Applicants submit all of Claims 1-8 are in condition for allowance. Prompt and favorable action is respectfully requested.

Should the Examiner require anything further, or have any questions, the Examiner is asked to contact Applicants' undersigned representative.

Respectfully submitted,

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